

ENVIRONMENTAL ASSESSMENT

ARMY SIGNAL COMMAND TRANSITION TO NETWORK ENTERPRISE TECHNOLOGY COMMAND FORT HUACHUCA, ARIZONA



AUGUST 2002

DRAFT FINDING OF NO SIGNIFICANT IMPACT
US Army Signal Command Transition to Network Enterprise Technology Command
(NETCOM)
Fort Huachuca, Arizona
August 2002

Title of the Proposed Action: U.S. Army Signal Command Transition to Network Enterprise Technology Command, Fort Huachuca, Arizona.

Introduction: The United States Army Signal Command (ASC), Headquarters at Fort Huachuca, Arizona has responsibility for management, operation and maintenance of many Army Information Systems. The ASC is combining with other Signal components to become the Network Enterprise Technology Command (NETCOM). To support the NETCOM mission expansion as described in the EA, ASC/NETCOM proposes to add up to 125 military, civilian and contract employees and construct a 100,000 square foot facility near Greely Hall.

Description of the Proposed Action: The ASC/NETCOM, headquarters at Fort Huachuca, Arizona, proposes to accept and support the increased Army Knowledge Management mission. This would increase the number of persons working on Fort Huachuca by up to 125 people. A new Army Global Information Center building would be constructed, at an estimated one-time cost of \$25 million. The proposed AGIC would be approximately 100,000 square feet, with vehicle parking, erosion control, water conservation methodology, rainwater storage, and a security fence. The potential increase in water pumping associated with the personnel increase is 60 acre-feet of water per year, with net water use of 34 acre feet after recharge. To offset the direct, indirect, interrelated, interdependent and cumulative water usage impacts, the ASC/NETCOM will provide \$125,000 to Fort Huachuca for water conservation projects, to include purchasing water conservation easements, which will more than offset the increased water usage.

Alternatives Considered: In addition to the proposed action, the Environmental Assessment considers two alternatives. The first was to move the Army's computer associated mission to another installation. The second was the no action alternative, refusing the increased mission and not constructing the new facility (AGIC).

Anticipated Environmental Effects: The Environmental Assessment addresses the possible direct, indirect and cumulative impacts associated with the proposed action on land use; socioeconomic; archeological, cultural and historic resources; noise, air quality, soils; hydrology, and water resources; including threatened and endangered species; safety; waste management; transportation; and energy use. It concludes that the proposed action would not significantly impact the human environment in any of these areas. Hiring up to 125 new employees with their families would increase water usage, but the \$125,000 in water conservation projects will more than offset the potential increase in water usage. Therefore, the proposed action would not significantly affect the region's water resources or threatened and endangered species.

Findings and Decision: Based on the analysis contained in the Environmental Assessment, I have decided that implementation of the proposed action to expand the ASC/NETCOM workforce and

construct a new facility does not constitute a major federal action significantly impacting the quality of the human environment at Fort Huachuca or within the Upper San Pedro Basin. Consequently, the proposed action does not require the preparation of an Environmental Impact Statement.

Public Comments: The Army invites interested or affected parties to review and comment on the EA or draft Findings of No Significant Impact within 30 days of publication by writing to the Commander, U.S. Army Garrison, ATTN: ATZS-ISB (Kent), Fort Huachuca, AZ 85613-6000. Comments or requests for copies of the Environmental Assessment may be faxed to (520) 533-3043. Copies of the Environmental Assessment are available for review at the Sierra Vista public library and the Fort Huachuca main library, and on the internet at:

<http://huachuca-www.army.mil/USAG/DIS/DISHOME.HTM#ENRD>

To be approved by:

JAMES A. MARKS
Brigadier General, U.S. Army
Commanding

ENVIRONMENTAL ASSESSMENT

**US Army Signal Command Transition to
Network Enterprise Technology Command
Fort Huachuca, Arizona**

Prepared by:

Office of the Command Engineer
Army Signal Command

[signed]

JAMES L. FURRY
Command Engineer
Army Signal Command

Reviewed by:

[signed]

BILLY J. ADAMS
Colonel, Chief of Staff
US Army Signal Command

Approved by:

[signed]

LAWRENCE J. PORTOUW
Colonel, U.S. Army
Commander, U.S. Army Garrison
U.S. Army Intelligence Center & Fort Huachuca

August 2002

ENVIRONMENTAL ASSESSMENT
US Army Signal Command Transition to Network Enterprise Technology Command
(NETCOM)

Fort Huachuca, Arizona

LEAD AGENCY: US Army Signal Command

TITLE OF THE PROPOSED ACTION: US Army Signal Command Transition to Network Enterprise Technology Command (NETCOM), Fort Huachuca, Arizona

AFFECTED JURISDICTION: Cochise County, Arizona

PREPARED BY: US Army Signal Command, Fort Huachuca, Arizona

REVIEWED BY: Chief of Staff, US Army Signal Command, Fort Huachuca, Arizona

APPROVED BY: Commander, U.S. Army Intelligence Center & Fort Huachuca

ABSTRACT: The Army Signal Command (ASC), Fort Huachuca, Arizona has responsibility for management, operation and maintenance of many Army Information Systems. The Army is expanding the responsibility of ASC, along its transition to become NETCOM. One of the significant additions to the mission is a program called Army Knowledge Management. To support Army Knowledge Management, ASC must expand its personnel by up to 125 employees. A 100,000 square foot Army Global Information Center building would also be constructed, at an estimated cost of \$25 million. The net water usage associated with the personnel increase is 34 acre-feet of water per year. To mitigate the direct, indirect, interrelated, interdependent and cumulative water usage impacts, ASC will provide \$125,000 to Fort Huachuca for various water conservation projects, which will more than offset the increased water usage. In addition to the proposed action, the Environmental Assessment considers two alternatives. The first was to move the Army's computer associated mission to another installation. The second was the no action alternative, refusing the increased mission and not constructing the Army's Global Information Center. The Environmental Assessment addresses the possible direct, indirect and cumulative impacts associated with the proposed action on land use; socioeconomic; archeological, cultural and historic resources; noise, air quality, soils; hydrology, and water resources; including threatened and endangered species; safety; waste management; transportation; and energy use. It concludes that the proposed action would not significantly impact the human environment in any of these areas.

REVIEW COMMENT DEADLINE: Public comments must be received within 30 days from the publishing date of this document. Public comments may be provided to: Commander, USAIC&FH, ATTN: ATZS-ISB (ASCEA), Fort Huachuca, Arizona 85613-6000. Comments may also be faxed to (520) 533-3043.

SECTION ONE: PURPOSE AND NEED FOR THE PROPOSED ACTION

1.0 INTRODUCTION

The United States Army is in a period of transition, looking to reduce the size of its headquarters in Washington by reducing redundancy, streamlining, and becoming more efficient. As part of this reorganization, the Army is removing those portions of the DA staff that conduct an operational mission, and placing those missions back in the hands of the subordinate operating commands. One of the first functional areas the Army is reorganizing is the Signal community. One of the prime components of the Army Signal community that will be most affected by the headquarters reorganization is the Army Signal Command (ASC). ASC is headquartered at Fort Huachuca, Arizona. As outlined below, the ASC is combining with other Signal components to become the Network Enterprise Technology Command (NETCOM).

At the same time, the Army is also changing the way it does business. The Army wishes to transform itself into a knowledge centric organization. The process for this transformation is Army Knowledge Management (AKM). Army Knowledge Management addresses acquiring, retaining, and communicating knowledge. The Army Signal Command/NETCOM will also be impacted by AKM. To handle the additional AKM-related requirements, ASC/NETCOM must increase the size of its workforce worldwide, to include Fort Huachuca. It will also need additional, and upgraded workspace at Fort Huachuca. This Environmental Assessment will address the potential impact of this personnel and workplace increase at Fort Huachuca.

1.1 Purpose and Need

In order for ASC/NETCOM to support the increase in AKM related missions, many of which involve information technology equipment, it must expand its personnel. It must also construct a new facility with sufficient power and telecommunications capacity to support the new equipment.

The Army must conduct an environmental assessment of this proposed action to comply with the National Environmental Policy Act (NEPA). An environmental impact statement (EIS) is not required because the Army does not anticipate that this action will have a significant impact on the human environment. A Record of Environmental Consideration (REC), a lesser level of environmental review, is not sufficient because of potential concerns with regard to natural resources that do not satisfy the screening criteria under which a Record of Environmental Consideration is authorized.

1.2 Scope of the Analysis

This EA will analyze the potential environmental impacts of the proposed action and the alternatives considered, pursuant to the guidelines the National Environmental Policy Act, 42 USC 4321 et seq., of Army Regulation 200-2 (32 CFR 651) and the Council on Environmental Quality regulations, 40 CFR 1500-1508.

This document incorporates by reference the August, 2002, Biological Opinion of the U.S. Fish and Wildlife Service concerning Fort Huachuca.

SECTION TWO: DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.0 Introduction: As part of reducing the size of its headquarters, the Army eliminated the Office of the Deputy Chief of Staff for Command, Control, Communications and Computers (DISC 4). In its stead, the Army created the office of the Chief Information Officer (CIO) G6. The Army is further proposing to transfer three divisions of the CIO/G6 to NETCOM, effective October 1, 2002. Those divisions are the Offices of Information Assurance, Spectrum Management, and the office of the Chief Technology Officer. These three divisions are presently located in the National Capital Region (Washington, D.C.) Under the reorganization plan, those groups will remain in the NCR. The creation of NETCOM also envisions a presence in the National Capital region. NETCOM in the NCR will consist of approximately 65 people from HQDA as set forth above, approximately 25 new personnel, and the transfer of approximately 35 people from Headquarters, Army Signal Command at Fort Huachuca. Thus, the realignment of the HQDA Signal community and the creation of NETCOM will result in a decrease of approximately 35 people from Fort Huachuca.

2.1 PROPOSED ACTION: Army Signal Command becomes NETCOM ASC is head quartered at Fort Huachuca, Arizona. The ASC is combining with other Signal components to become the Network Enterprise Technology Command (NETCOM). To support the NETCOM mission expansion as described below, ASC/NETCOM proposes to add up to 125 contract and civilian employees and construct a 100,000 square foot facility near Greely Hall.

2.1.1 ARMY KNOWLEDGE MANAGEMENT (AKM): The concept of Army Knowledge management is to improve the methodology and capability of gathering, retaining, and exchanging information. Although this is not entirely a technologically based concept, it does take advantage of the revolution in information technology. Some of the AKM components are described below. As part of the proposed action, ASC/NETCOM proposes to accept an expansion to existing missions to provide leadership, operations and maintenance support for portions of the larger AKM mission. Components of that mission are described below, with a more detailed requirements recapitulation in section 2.1.2.

Computer Network Operations (CNO): One of the components of AKM is Computer Network Operations (CNO). This includes the system and network operators that run the Army's computer systems and keep them secure. The number and complexity of the supported systems is expected to grow. To support the growth of the CNO mission at Fort Huachuca, ASC/NETCOM must add personnel to its CNO workforce

Army Knowledge Online (AKO): Another component to AKM is Army Knowledge Online (AKO). AKO is a portal for Army personnel to enter the Army's computer networks from remote locations.

Windows 2000 (WIN 2000): Another component of AKM is the upgrade to Army systems from Windows 2000. A key portion of Windows 2000 is an active directory, which will allow the Army to centrally manage information technology assets.

2.1.2 The Proposed Action Requirements Recap: In total, the creation of NETCOM is expected to increase ASC/NETCOM personnel at Fort Huachuca by approximately 125 personnel. These personnel will include military, Department of Army civilian employees, and contractor personnel. The projected growth of personnel within ASC/NETCOM Headquarters at Fort Huachuca is as follows:

Function	Current	Required	Increase
Army Network Operations and Security Center (ANOSC)	39	61	22
CONUS Theater Network Operations and Security Center (C-TNOSC)	161	250	89
Regional Computer Emergency Response Team CONUS (RCERT-CONUS)	24	33	9
Tactical Operations	11	11	0
Miscellaneous support	0	40	40
Transfers to NCR	0	(35)	(35)
Total	235	360	125

These personnel increase numbers are subject to funding. If the Army does not give NETCOM the required funding for the positions, and historically they have not, the growth of personnel will be less. Put another way, the projected growth of 125 personnel to Fort Huachuca is a 'most likely' scenario.

The implementation of an expanded AKM mission will require sufficient infrastructure to operate various network management components. The best way to fill this requirement is to build a facility at Fort Huachuca to support ASC's Computer Network Operations. Existing facilities are overcrowded and have inadequate physical plant capabilities to support the AKM components mission. The Army proposes to build an Army Global Information Center (AGIC) building to provide adequate space, communications infrastructure, and power to support the CNO mission. Until the facility can be built, the Army proposes to lease temporary facilities to alleviate the current overcrowding within existing facilities. The new permanent building would replace the temporary structures. The new building is estimated to be approximately 100,000 square feet, with vehicle parking, erosion control, water conservation, rainwater storage, and a security fence. The proposed site of this building is on Irwin Street, in close proximity to Greely Hall, the ASC/NETCOM Headquarters building. In addition, part of the proposed action is to fund implementation of water conservation projects to offset water use from incoming personnel and their families.

The proposed action is to hire 125 personnel required to support NETCOM and AKM at Fort Huachuca, while dispersing other new personnel to other Army installations. It would include building the new permanent AGIC, and funding water conservation projects. This is the preferred alternative because it satisfies all of the Army's mission requirements with minimal disruption to operations and at the least cost.

2.2 ALTERNATIVES CONSIDERED

2.2.1 ALTERNATIVE 1. IMPLEMENT THE PROPOSED ACTION TO CONSTRUCT THE AGIC FACILITY AND INCREASE ASC/NETCOM PERSONNEL BY APPROXIMATELY 125 TO SUPPORT NETCOM AND THE EXPANDED AKM MISSION. This alternative is described in detail above.

2.2.2 ALTERNATIVE 2. MOVE ASC/NETCOM'S COMPUTER MISSION FROM FORT HUACHUCA. Under this alternative, ASC would relocate 360 people to other installations. This would include the 125 new personnel and equipment and 235 existing personnel. Currently, the infrastructure and associated assets to support the missions described in the proposed action exists only at Fort Huachuca. Relocating the expanded missions at another installation would not be possible without moving existing mission organizations and infrastructure to support the mission requirements. The number of people currently engaged in AKM type missions at Fort Huachuca is approximately 235, and these organizations have a great amount of specialized equipment. There is also a significant fixed base of infrastructure that cannot be moved. The result is that in addition to being more expensive than expanding the missions at Fort Huachuca, a mission relocation would significantly interrupt current operations at a time when this nation is engaged in military operations.

2.2.3 ALTERNATIVE 3. NO ACTION ALTERNATIVE. This action would be maintenance of the status quo at Fort Huachuca. There would be no increases to personnel and no new facility. Although this would result in no change to existing environmental conditions as discussed below, it would not support the Army's mission of keeping its communications systems open, secure, and effective. It would seriously impact the Army's transition to NETCOM and perform AKM related missions.

2.3 ALTERNATIVES ELIMATED FROM FURTHER CONSIDERATION

2.3.1 ALTERNATIVE 4. CREATE NETCOM AND PERFORM EXPANDED AKM MISSIONS WITHOUT BUILDING THE AGIC. This alternative was considered, however, the current location for existing AKM operations, Greely Hall, does not have the infrastructure to expand the current mission. Rehabilitation of Greely Hall to support the mission is cost prohibitive and would result in a facility that remains inadequate. No other existing available facility on the installation has adequate infrastructure. Current tenants with adequate facilities would require a new building if their mission was displaced by the AKM. Therefore, building the AGIC is the alternative that balances least cost with total mission management, and this alternative was not further considered.

2.3.2 ALTERNATIVE 5. CREATE NETCOM, BUILD THE AGIC, AND OPERATE WITH EXISTING MANPOWER ONLY. Although modernization of facilities will improve the efficiency of the personnel managing the AKM functions, there would be too much workload for the existing personnel to perform AKM functions over the long term. As a result, this alternative was not given further consideration.

2.3.3 ALTERNATIVE 6. CREATE NETCOM, PERFORM EXPANDED AKM MISSIONS AT FORT HUACHUCA, SELECT ANOTHER SITE ON FORT HUACHUCA FOR THE AGIC Three other sites on Fort Huachuca met the ASC/NETCOM requirements for the AGIC with respect to proximity to Greely Hall for operations and communication. The site at the corner of Irwin and Cibique met the requirement, but is too small to allow the square footage and accommodate parking. Additionally, it is in an area with existing urban runoff drainage problem that is currently undergoing engineering projects to reduce the potential of flooding buildings downgradient. Additional impervious construction, such as rooftops and parking areas, on that site would require additional runoff engineering and would be cost prohibitive. Another site directly across Irwin from Greely Hall had similar, though not as severe drainage and parking restrictions, and was also eliminated from consideration due to the high cost of managing runoff from additional impervious surfaces. The third site assessed was at the corner of Irwin and Arizona Streets. It had drainage problems, and would severely constrain the configuration of the building, while adding increased traffic congestion at an already busy intersection. For these reasons, the site was eliminated from further consideration.

2.3.4 ALTERNATIVE 7. DON'T REORGANIZE HEADQUARTERS DEPARTMENT OF ARMY SIGNAL ORGANIZATION. This alternative was not considered because the streamlining of HQDA is Congressionally mandated and is outside the control of Fort Huachuca.

SECTION THREE: AFFECTED ENVIRONMENT

3.1 INTRODUCTION

Numerous documents exist that describe the baseline conditions at Fort Huachuca. These documents are incorporated by reference according to the document mentioned in each media section below. For each of the incorporated documents, reference the corresponding baseline topic.

3.2 BACKGROUND

Fort Huachuca is located on the western side of the San Pedro River Valley in Cochise County in southeastern Arizona, 60 miles southeast of Tucson and approximately 15 miles north of the Mexican Border. As of September, 2001, the installation employed about 4,066 military personnel and about 5,581 civilian and contractor personnel. There were also about 2,658 students who are temporarily present at Fort Huachuca for schooling during the year. The total employee population was approximately 12,305.

3.3 LAND USE

Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ March 2002.

The primary building affected by the proposed action at Fort Huachuca is Greely Hall (Building 61801), which is the headquarters building for the Army Signal Command, and will be the headquarters of NETCOM. The area identified as a potential AGIC site is in a previously disturbed part of the cantonment area, currently dominated with mesquite and non-native grasses.

3.4 SOCIOECONOMICS

Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ. July 2002.

3.5 CULTURAL RESOURCES AND HISTORIC PROPERTIES

Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ March 2002.

3.6 NOISE

Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ March 2002.

3.7 CLIMATE AND AIR QUALITY

Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ March 2002.

3.8 SOILS

Fort Huachuca has a diverse range of soil types and conditions. The soils exhibit wide variations in depth, texture and chemical properties. Roughly 30% of the soils are less than 2 feet in depth over bedrock. The soil of the cantonment area in the vicinity of the AGIC site consists of alluvial fan

soils with low percolation rates, rapid runoff, high shrink-swell potential, up to 50% rock fragments, and a hazard of water erosion. (McGuire 1997).

3.10 BIOLOGICAL RESOURCES

Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ. July 2002.

3.11 SAFETY

Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ March 2002.

3.12 WASTE MANAGEMENT

Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ March 2002.

3.13 TRANSPORTATION

Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ March 2002.

3.14 ENERGY

Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ March 2002.

SECTION FOUR: CONSEQUENCES OF THE PROPOSED ACTION AND ALTERNATIVES

4.0 INTRODUCTION

This section describes the potential environmental consequences associated with the proposed action and the alternatives considered. Consistent with the discussion of the affected environment, this section has been organized by resource area to provide a comparative framework for evaluating the impacts of the proposed action and alternatives on individual resources.

4.1 LAND USE

Potential land use impacts were projected based on the compatibility of land uses associated with the proposed action and alternatives with adjacent land uses and zoning, and consistency with general plans and other applicable land use plans and regulations.

4.1.1 Proposed Action: The implementation of the proposed action would not result in any significant impact to existing land uses. The new personnel will support existing missions at ASC/NETCOM headquarters at Fort Huachuca. Most of the new personnel will be stationed in Greely Hall or the new AGIC. The proposed construction of the AGIC building will not change land use at Fort Huachuca. The building will be located within the built-up part of Fort Huachuca.

4.1.2 Alternative 2: Locating the new personnel on a different installation would not alter land use at Fort Huachuca. Greely Hall would remain ASC/NETCOM headquarters. Whether or not the AGIC is erected does not change the land uses of the Fort Huachuca cantonment area.

4.1.3 No Action Alternative: Maintaining the status quo would not impact current land use.

4.2 SOCIOECONOMICS

4.2.1 Proposed Action The proposed action will add approximately 125 personnel to the Fort Huachuca workforce. It will also add approximately \$25 million to the local economy in connection with the construction of the AGIC.

To analyze the socio-economic impacts of the personnel, the Army must determine the salary levels of the proposed additional personnel. This is difficult, because grade levels for the government personnel have not yet been established. Moreover, many of the new personnel will be contractor personnel, which in part fix salary levels on competitive bidding. Military, civilian and contractor personnel will be added. Therefore, to provide a point of reference for purposes of analysis, the figure of \$60,000 per employee will be used. The actual average salary is very likely to be less, but the high average is intended as a "likely not to exceed" point of reference for the purposes of analysis.

Fort Huachuca currently has an estimated civilian payroll of \$151 million. This includes the added payroll from the recent Western Civilian Personnel Center expansion. The addition of 125 employees, with the average salary of \$60,000 is \$7,500,000. After taxes and other withholdings of one third, this would add 5.6 million in net earnings to the local economy. This is an increase of

less than 3.7%. In the context of Cochise County it is an increase of less than .3% and is not a significant socioeconomic impact.

The construction of the AGIC will add a short-term spike to the local economy. Construction costs are estimated to be in the neighborhood of \$25 million, including labor and materials. Material costs comprise at least half of this amount, and are most likely to be purchased outside the Sierra Vista area, depending on which contractor wins the Army Corps of Engineers construction bid. This short term spike in labor is not expected to significantly impact socioeconomic conditions in the local area.

4.2.2. Alternative 2: If the new personnel were located at another installation, the socioeconomic impacts would not occur within Cochise County, Arizona. Moreover, relocating the existing 235 personnel outside the local impact area would reduce economic impact in Cochise County, as those existing salaries would be removed from the current economy. In addition, if the AGIC were not constructed locally, the \$25 million construction expenditures would not be added to area. However, in the context of the entire local economy, this is not considered significant.

4.2.3 No Action Alternative Maintaining the status quo will have no significant impact on current socioeconomic conditions.

4.3 CULTURAL RESOURCES AND HISTORIC PROPERTIES

Information was evaluated in relation to the proposed action and each alternative in order to assess the potential impacts to archeological, cultural and historic resources. Potential impacts to these resources would be considered significant if they will, or might reasonably be expected to disturb or damage National Register eligible resources.

4.3.1 Proposed Action: The proposed action is not anticipated to have a significant impact on archeological, cultural or historic resources. All of the personnel, except those housed in the AGIC, will occupy existing administrative facilities. These existing facilities include modular temporary buildings that are being leased to for ASC personnel overflows and power requirements. Other than AGIC, there will be no new construction. AGIC will be constructed within the existing cantonment area, and will be coordinated with the post archeologist to insure no damage or disturbance to any currently unknown resource.

4.3.2 Alternative 2: Locating the new personnel to another installation will not change impacts to archeological, cultural or historic resources at Fort Huachuca. Since there will be no impacts from the proposed action, there would be no impacts from eliminating the proposed action, to include relocating existing organizations. However, depending on the installation chosen for relocation and the existing facilities, there could be a potential impact at another location.

4.3.3 No Action Alternative: Maintaining the status quo would not significantly impact archaeological, cultural or historic resources.

4.4 NOISE

Criteria for the assessment of noise impacts are based on Land Use Compatibility Guidelines established by the Federal Interagency Committee on Urban Noise (FICUN). FICUN has published guidelines and the Department of Defense has agreed to follow them. Under these guidelines, the principal criteria to determine if a significant noise impact on the human environment would occur is whether activities would exceed 65 decibels for the average daily noise level. (This is the threshold for residential land use compatibility) Additionally, if there would be a 1.5 decibel incremental increase, a more detailed assessment of noise impacts would be required.

4.4.1 Proposed Action: When evaluated against the above criteria, personnel increases would not significantly increase noise levels at Fort Huachuca. There will be traffic increases, especially in the area of Greely Hall and the AGIC, but the traffic increase will not generate significant noise. The noise levels are expected to be within Fort Huachuca background noise levels at non-airport locations. (ADNL 55 to 60 dBA).

The construction of the AGIC will increase noise levels for the duration of the construction. Heavy equipment engines and other associated construction noises will take place during the work day. However, the only housing area in the vicinity of the construction site is barracks for soldiers. Daytime noise from construction would not have a significant impact during the construction phase.

4.4.2 Alternative 2: Locating 125 personnel elsewhere, together with the relocation of 235 personnel from existing organizations, to another installation would reduce traffic noise at Fort Huachuca, especially in the area of Greely Hall.

4.4.3 No Action Alternative: Maintaining the status quo would maintain current noise levels at Fort Huachuca.

4.5 AIR QUALITY

Potential impacts on air quality are considered significant if the proposed action or alternatives would release criteria pollutants that would exceed the federal primary and secondary standards for pollutant species adopted by the State of Arizona. Impacts are also considered significant if the activities are not in conformity with Section 176 of the Federal Clean Air Act for Federal actions.

4.5.1 Proposed Action: The personnel expansion contemplated by the proposed action and the construction of the AGIC will not significantly impact air quality at Fort Huachuca. Air quality in Cochise County is within attainment for EPA National Ambient Air Quality Standards for all criteria pollutants. The personnel increases caused by the proposed action will not cause the county to fall out of conformity with the National Ambient Air Quality Standards or the State Implementation Plan. The increase in personnel will cause increased traffic, which will cause increased emissions. However, it is expected that the emissions from the increased number of vehicles will probably not be detectable, and definitely not significantly impact air quality.

The construction of the AGIC will cause increased emissions, from workers' vehicles and construction equipment. Excavation activities during construction raise the possibility of increased amounts of dust in the area. However, none of the vehicle emissions will significantly impact air

quality. Construction crews will be instructed to mitigate dust problems by watering disturbed soil to prevent excessive blowing. This will insure that dust does not significantly impact air quality. Once in operation, the building will not be a source of air pollution.

4.5.2 Alternative 2: Locating the 125 new personnel and relocating the existing organizations they would supplement would reduce traffic, and thus reduce air emissions at Fort Huachuca. However, as indicated above, the total emissions are not expected to be even noticeable, much less significant. If this traffic was located at another installation, especially if the receiving installation was located in a non-attainment area, it could have a significant impact. Impacts to air quality based on construction of AGIC would be moved to the new installation as well.

4.5.3 No Action Alternative: Maintaining the status quo would mean no change to existing air quality at Fort Huachuca and in Cochise County.

4.6 SOILS

The impacts to soils relate to erosion or soil contamination.

4.6.1 Proposed Action: The proposed action will not have a significant impact on soils. The only construction associated with the proposed action is the AGIC. Design plans call for state of the art erosion control and rainwater storage. Runoff channels and drainage systems on Fort Huachuca are adequate to handle any runoff caused by the new structure. The building as completed will not leave any exposed soil subject to wind or runoff erosion. None of the activities associated with the new building will create the possibility of soil contamination. This building will only house electrical equipment and personnel.

4.6.2 Alternative 2: Locating the new personnel and relocating the organizations they supplement to another installation would eliminate construction of the AGIC at Fort Huachuca, and move construction to another installation. No impacts to soils would occur.

4.6.3 No Action Alternative: Maintaining the status quo would have no impact on soils.

4.7 HYDROLOGY AND WATER RESOURCES

Potential impacts to hydrology and water resources are considered significant if the proposed action or its alternatives would contribute to a net increase in Fort Huachuca's water consumption in the Sierra Vista subwatershed or if surface water resources are adversely altered.

4.7.1 Proposed Action: The proposed action would not significantly impact water quality in the Upper San Pedro Basin (USPB). This conclusion is based on many factors. The quality of groundwater in the area is within Arizona Department of Environmental Quality standards, and the proposed action creates no risk of degrading water quality. No impacts to surface waters are anticipated. Construction will not occur near any surface water location.

Fort Huachuca has already reduced its on-post consumption by almost 1,600 acre- feet since 1989. This reduction has been based upon some very aggressive mitigation policies that are in place and will continue. The installation has instituted a "Water Wise" program that educates all Fort

Huachuca on water conservation techniques. This program is shared with the local community. The post has eliminated many of its non-native grass lawn areas, and most new construction uses xeriscape. This is a type of landscaping incorporating rocks and stones and native plants that greatly reduces the need for water. The post has demolished many excess buildings, all of which were old and did not have water conservation technology. The post is in the midst of a major project to renovate family housing on the installation. These projects demolish older housing and replace it with modern construction, all of which has the latest water conservation technology. Older urinals that require water for flushing are being replaced by waterless urinals on post. Horizontal axis washing machines, which use less water, are replacing older machines in the single soldier housing. The post is also replacing evaporative cooler units with air conditioning, further reducing water use. The post is modernizing the golf course irrigation system. The Commander has instituted a strict watering policy, and aggressively enforces it. The installation conducts periodic potable water and sewage leak detection surveys and repairs.

With regard to groundwater resources, a conclusion of no significant impact is based on many factors. In August 2002, the United States Fish and Wildlife Service issued a Biological Opinion concerning Fort Huachuca. Contained in that document was the agreement that Fort Huachuca would reduce its regional water use by 3,077 acre-feet per year by 2011. This consists of 437 acre-feet in water conservation, 1,600 acre-feet for conservation easements, and 1,040 acre-feet in storm water recharge. The Fort has a long-term goal of helping the entire community balance water use as well. To further that goal, the post has several ongoing projects. This includes the Effluent Recharge Project, which is scheduled to begin in February, 2002. This project will recharge approximately 1000 acre-feet annually to the aquifer. Another project seeks to measure storm water runoff and return up to 250 acre-feet to the aquifer. The post has also purchased conservation easements retiring agricultural lands in the region in recent months. This will eliminate the water use necessary for raising irrigated crops such as alfalfa. This will result in savings of approximately 1000 acre-feet per year in the aquifer. The post expects to purchase easements and retire up to 1000 acre-feet in 2002. Thus, not only does the post's water use continue to decline, it will continue to recharge the aquifer and retire agricultural water consumption off the installation.

The proposed action will add approximately 125 personnel to the Fort Huachuca workforce. This increase in personnel was included in the August 2002 programmatic biological opinion. Based on past history, the post expects perhaps half of this number to come from people already residing in the San Pedro watershed, since most of the AKM employees will be contractors. Historically, Fort Huachuca contractors recruit first in the local area. Regardless of where the employees come from, a \$125,000 mitigation fee will be paid. This will fully mitigate all water usage associated with the personnel increases. Based on the 2000 census, the average size of a household in Sierra Vista is 2.48 people. Adding 125 employees would effectively add 310 people in the area. These 310 people will use approximately 16,972,500 gallons of water per year, or 52.1 acre-feet of water per year. This calculation is based on an estimated water use of 150 gallons per person per day. Actual net consumptive use is approximately 35% less because does not include recharge at existing wastewater treatment plants or due to septic system recharge. Therefore the net water increase is approximately 34 acre-feet. In addition to the continuing trend of water conservation and recharge, the mitigation fee contributes to the projects mentioned above and more than offsets this amount of water usage. Therefore, the water impacts from the increased personnel will not be significant.

There would also be some additional water use occasioned by the construction of the AGIC. This would consist primarily of wetting the soils to prevent dust. This will be of limited duration and is not expected to be a significant use.

4.7.2 Alternative 2: Locating new personnel, and relocating the organizations they supplement, to another installation would reduce water consumption in the Sierra Vista Subwatershed by 98 acre-feet. (34 net acre-feet for proposed action and 64 net acre-feet per year for the relocation of 235 personnel and their family members). Fort Huachuca has already agreed to conservation measures of 3,077 acre-feet as part of the programmatic biological opinion. Once this is achieved, this will completely offset all direct, indirect, interrelated and interdependent effects associated with Fort Huachuca's presence in the Sierra Vista Subwatershed. The reduction of 98 acre-feet would be 3% of the total 3,077 acre-feet reduction. However, Fort Huachuca will implement many other projects to achieve the reduction of 3,077 acre-feet and the reduction of 98 acre-feet associated with Alternative 2 is not necessary.

4.7.3 No Action Alternative: Maintaining the status quo would not change the number of water users within the aquifer. The Fort would continue to comply with the conservation measures associated with the August 2002 programmatic biological opinion.

4.8 BIOLOGICAL RESOURCES

Potential impacts to biological resources could be determined to be significant if there is jeopardy to populations of a Federally-listed threatened or endangered species; adverse modification to designated critical habitat; or a substantial loss of a non-critical, yet limited resource of critical importance to a Federally-listed threatened or endangered species.

4.8.1 Proposed Action

Vegetation and wildlife. No significant impacts are expected to the vegetation on the installation and/or the region as a result of the proposed action. This conclusion is based on several factors. Most of the significant vegetation and wildlife resources on Fort Huachuca are concentrated within the mountain canyons and slopes, riparian areas and firing ranges. The proposed action will not impact these areas. With the exception of the AGIC construction project, the additional personnel and the work they perform will take place within existing facilities. The proposed action will include additional water conservation projects to offset all water usage associated with the action. Therefore, there will be no significant impact to ground water resources or surface water resources for habitat. Construction impacts will be limited to a one building project within the cantonment area, on less than 40 acres of previously disturbed semi-desert grassland, currently infested with mesquite and non-native grasses. There may be a minor increase in recreational activities in the area prompted by increased personnel. This is not expected to be significant because current recreational areas and facilities are deemed adequate. Moreover, Fort Huachuca is reducing potential impacts through proactive study and management of sensitive resources in cooperation with a diverse group of outside agencies.

The installation has a continuing education program for new residents and employees due to the transient nature of the post's population. The garrison commander schedules required monthly

briefings that include information on the post's ecological resources. The post uses its newspaper to further educate the community.

Endangered, Threatened and Sensitive Species. The proposed action will have no effect on these resources in, potentially in, or historically around the installation. The reasons are that all new personnel will be housed or located within existing facilities or the AGIC building within the cantonment area. The cantonment area is located far from any known site or habitat of endangered species. The only other potential impact to these species comes from water use. Impacts based on 60 acre feet of pumping, but 34 acre feet of net water usage were considered in the August 2002 programmatic biological opinion. In addition, to the payment of \$125,000 to implement projects to reduce this water usage to zero, Fort Huachuca has committed to conservation measures to reduce 3,077 acre feet by the year 2011. Continuing to reduce water use, offset water usage, purchase conservation easements, and recharging the aquifer will not have a significant impact on these species, to include those dependent on the riparian habitat surrounding the San Pedro National Conservation Area.

4.8.2 Alternative 2: Locating new personnel, and relocating existing personnel, changes the place of potential impact to another installation. There would be a reduction of 98 acre-feet in water pumping in the Sierra Vista Subwatershed. Whether or not there is a significant impact at a different installation would depend on the conditions existing at the receiving installation.

4.8.3 No Action Alternative: Consistent with the August 2002 programmatic biological opinion and the associated conservation measures, maintaining the status quo would not significantly impact biological resources.

4.9 SAFETY

Significant impacts are determined to occur if there are increases in risk to human health and safety to include the potential for accidents, mortality or disease.

4.9.1 Proposed Action: There are no extraordinary safety risks associated with the personnel increases at Fort Huachuca. Almost all of the work activities are office/classroom related. With regard to construction, the AGIC will be built using current construction practices and materials.

4.9.2 Alternative 2: Relocating existing and new personnel to another installation reduces safety risks associated with construction and operation of equipment at Fort Huachuca and moves it to another installation. Since Fort Huachuca's roadway infrastructure is adequate to absorb the traffic increase caused by adding 125 personnel, moving the personnel just moves the traffic to another installation, where it may or may not cause problems.

4.9.3 No Action Alternative: There are no additional safety risks associated with the no action alternative.

4.10 WASTE MANAGEMENT

Whether or not there is a significant impact is related to increases or decreases in volume and types. The potential for producing hazardous or regulated waste is considered more important than municipal solid waste or construction and demolition debris.

4.10.1 Proposed Action: The proposed action will not result in a significant increase in the generation of any hazardous waste. The equipment used to support the AKM personnel consists of computer and signal related equipment. This type of equipment does not normally generate hazardous waste. The proposed construction will not significantly increase hazardous wastes.

With regard to the generation of solid wastes, increased personnel means increased solid wastes. However, the increase in solid waste generated will not significantly impact the current capacity of the post or regional landfills to dispose of the wastes. Moreover, the post has a recycling program which would help offset the increased solid waste.

With regard to construction, no demolition is required to support the new building. Therefore, only construction debris is anticipated. This will not create a significant impact.

4.10.2 Alternative 2: Relocating existing and new personnel would result in a decrease of solid waste.

4.10.3 No Action Alternative: Maintaining the status quo would result in no increases to solid, hazardous or regulated wastes at Fort Huachuca.

4.11 TRANSPORTATION

Impacts to transportation are considered significant if an action increases traffic on adjacent roadways such that the roadway would need to be widened or if traffic is significantly slowed down. The impact is also considered significant when the action results in a shortage of available parking spaces.

4.11.1 Proposed Action: The proposed action will result in more vehicles entering the post and using available roads. The roads in the proposed areas of personnel expansion are considered adequate to handle the increased traffic. There is ample parking around Greely Hall, and the AGIC will have its own parking facility. Construction of the AGIC could result in some temporary traffic flow changes at various stages of the project. These will be temporary and not significant.

With regard to the roadway network off post, there will be no significant impact. State Highway 90, which passes the post and feeds its gates, has a projected capacity of between 25,000-35,000 vehicles per day. The current daily average traffic volume is 10,300 to 15,000 vehicles.

4.11.2 Alternative 2: Relocating personnel to another installation moves the traffic of some 360 people to another installation. Whether or not this would create a transportation or traffic problem would depend on the receiving installation.

4.11.3 No Action Alternative: The no action alternative would maintain current traffic and parking conditions.

4.12 ENERGY

A significant impact is created if increased power demands would exceed the capacity of the transmission lines and transformers, or if a substantial increase in energy use is created.

4.12.1 Proposed Action: Adding personnel in connection with the proposed action will increase electricity consumption on post. Much of the additional equipment uses electricity, and requires an air-conditioned environment for maximum performance. However, this increased consumption will not be significant. All increases are within the capacity of the current systems. In addition to reducing water use over the past decade, the post has also reduced electrical consumption. Less irrigation pumping has meant less electrical use. New construction replacing old has meant energy saving appliances and replacing less efficient systems. Energy use will not be significantly increased by the proposed action.

4.12.2 Alternative 2: Relocating personnel relocates the impact of energy. Whether or not there would be a significant increase would depend on energy resources at the receiving installation.

4.12.3 No Action Alternative: Maintaining the status quo does not increase energy requirements.

SECTION FIVE: CUMULATIVE IMPACTS

5.1 INTRODUCTION Cumulative impacts are defined by the Council on Environmental Quality (CEQ) regulation as those impacts attributable to the proposed action combined with other past, present or reasonably foreseeable future impacts regardless of the source of the agency causing them. This cumulative impact analysis looks at the impacts of the proposed action and alternatives in connection with related past, present and future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. However, to be considered significant, a cumulative impact must occur in a common locale or region, not be localized, impact a particular resource in a similar manner, and be long-term (short term impacts would be temporary and would not contribute to significant cumulative impacts).

5.2 ANALYSIS: Analysis of cumulative impacts requires the evaluation of a broad range of information that may have a relationship to the proposed action and alternatives. The key is a good understanding of the politics, sociology, economics, and physical environment of the region. An accurate evaluation of factors that contribute to cumulative impacts is also important. Fort Huachuca has placed a number of environmental documents out for public comment and scoping in the past few years. The response from the public highlighted concerns in a number of topic areas, to include water resources, ecological resources (specifically Federally listed species and their habitats), population growth and economic activity in the Fort Huachuca/ Sierra Vista area and its resulting impacts on water and ecological resources in the area. The focus of this cumulative impacts analysis will be in these areas

5.3 LAND USE: Population growth in the Sierra Vista area has resulted in relatively low-density land uses similar to many other communities in Arizona. The off-post developed areas have expanded quite rapidly in recent years, converting large stretches of undeveloped land used primarily for cattle grazing and recreation activities to low density residential areas. On the post, total developed land has decreased from its maximum during World War II.

Based on the 2000 census, population growth in the region was slower than anticipated. Sierra Vista was 57th in terms of growth in Arizona. Nearby Huachuca City actually lost population. Future growth of the region, which is estimated at approximately 2% per year, will result in continuing expansion of off-post, urbanized areas unless significant changes to planning and zoning occur in Sierra Vista, Cochise County, and Huachuca City. Within the post itself, no major changes to land use are anticipated. Some minor modifications to land use designations may occur as the post implements its planned Integrated Resource Management Plan and its Cultural Resources Management Plan. Protection of sensitive species may also dictate some modifications to land use.

Projects Currently Under Consideration in the Vicinity of Fort Huachuca

Proponent	Project	Size (in acres)	Time	Resource Impact
Fort Huachuca	Unmanned Aerial Vehicle Facility Upgrade	Up to 50	undetermined	grasslands
AAFES	New Mini mall at Fort Huachuca	3	2002	grassland
Fort Huachuca	Recreational Vehicle Park Expansion	50	TBD	Grasslands, water
Department of Defense	Hobson Training Center	25	2003	10 acres of grassland
City of Sierra Vista	Visitor Center	9	TBD	traffic
City of Sierra Vista	New OSCO Drug	7	TBD	Grasslands, traffic
City of Sierra Vista	Developments: Highland Park Silverado Estates Reminton Park Canyon De Flores Greenbrier Villas Chaparral Village Winterhaven (2, 3, 4) La Terraza	35 15.5 48 395 17 236 250 56	TBD	Grassland, traffic, water, socioeconomic
City of Sierra Vista	Campus Drive Business Park Section 12 commercial Castro Maintenance Center Hospital	27 37 20 40	TBD	Grassland
Total potential acreage		1297.5		

5.3.1 Proposed Action: The proposed action would not significantly contribute to cumulative land use impacts in the region. The AGIC building will be within the existing cantonment area. All other personnel growth will be absorbed into existing facilities. Off post, this action will not significantly influence current business or residential development. Personnel increases are not great enough to trigger additional development. Moreover, it is anticipated that many of the new employees already reside in the local area.

5.3.2 Alternative 2: Eliminating 235 jobs would not likely change land use at Fort Huachuca. However, it may temporarily discourage business and residential development within and near

Sierra Vista. This cumulative impact would be short-term and would not significantly impact long-term growth in the region. Furthermore, not all the 235 employees would move and would likely find other jobs or retire in the area.

5.3.3 No Action Alternative: Maintaining the current workload and number of employees would not significantly contribute to cumulative impacts on land use in the local area.

5.4 SOCIOECONOMICS

5.4.1. Proposed Action: Earnings in the county totaled approximately two billion in 1999. The distribution of earnings across industries is essentially the same as the distribution of employment, with government and government enterprises, services, and retail trade representing the largest income producers (US Department of Commerce, Bureau of Economic Analysis (BEA 1999). Projected increases to the local economy from the 125 employee salaries are less than one half of one percent. This is not a significant cumulative impact.

5.4.2 Alternative 2: Eliminating 235 jobs would reduce the Fort's contract and civilian payroll by approximately 13,100,000 (\$60,000 per employee) which would likely affect the local economy; thereby causing the local unemployment rate to increase marginally. Some of the 235 employees would leave the area, while others would remain and absorb jobs available within the local economy. Over the long term, eliminating 235 contractor and civilian jobs would not significantly contribute to cumulative socioeconomic impacts in Cochise County. Additionally, the local economy would not enjoy the one-time insertion of \$25 million for expenditures associated with construction of the AGIC.

5.4.3 No Action Alternative: Maintaining the current workload and number of employees at ASC would not significantly contribute to cumulative socioeconomic impacts within the ROI. Additionally, the local economy would not enjoy the one-time insertion of \$25 million for expenditures associated with constructing the AGIC.

5.5 HYDROLOGY AND WATER RESOURCES

The cumulative impacts on water resources in the region are important to the sensitive wildlife and habitat of the USPB watershed. Factors potentially affecting the region's riparian ecosystems include: increased residential and economic development; increased agricultural pumping; water use along the river, both human and natural; potential pollution in Mexico; and cones of depression from well withdrawals. Current groundwater pumping in the Sierra Vista subwatershed exceeds natural recharge. A consensus of scientific opinion concludes that continued unmitigated aggregate pumping may impact portions of the Upper San Pedro River; and thereby, may threaten listed species and their critical habitat. The August 2002 Programmatic Biological Opinion estimates that total groundwater annual deficit is approximately 5,141 acre-feet. Approximately 2,784 acre-feet of groundwater pumping within the Sierra Vista subwatershed is attributable to Fort Huachuca's presence, which represents 54% of groundwater pumping in the subwatershed. Fort Huachuca will implement conservation measures to reduce 3,077 acre-feet of water usage by the year 2011. This will significantly reduce impacts to water resources in the Sierra Vista Subwatershed. Additionally, other agencies and municipalities are pursuing methods to increase annual recharge to the regional

aquifer. The City of Sierra Vista recently completed construction of effluent recharge basins that will recharge approximately 2,500 acre-feet annually. The City of Bisbee and the City of Huachuca City are also pursuing the feasibility of effluent recharge projects as well. Additional projects to reduce the deficit pumping are in planning and will be announced as development allows.

In the 1999 Memorandum of Agreement between the U.S. Army and the U.S. Fish and Wildlife Service, Fort Huachuca committed to supporting the Upper San Pedro Partnership (USPP) goals of sustaining base flows in the San Pedro River and addressing the indirect, interrelated, and interdependent effects of Fort Huachuca's presence in the region, and the cumulative effects from all sources on threatened and endangered species along the San Pedro River. The USPP consists of the following federal, state, and local agencies and non-governmental organization: Fort Huachuca, Bureau of Land Management, U.S. Forest Service, National Park Service, U.S. Geological Survey, Agricultural Research Service, Arizona Land Department, Arizona Department of Water Resources, Arizona Department of Environmental Quality, Arizona Association of Conservation Districts, Cochise County, Sierra Vista, Huachuca City, Bisbee, Tombstone, Hereford Natural Resource Conservation District, and The Nature Conservancy. Fort Huachuca, the City of Sierra Vista, and other USPP members are actively exploring and pursuing methods to effectively manage water resources within the region. Information concerning water conservation at Fort Huachuca from the 2002 BA (Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ. July 2002) is incorporated by reference. Other projects are shown in table 5.

Table 5. Major Water Resource Projects and Studies by Sierra Vista

Project	Goal	Status
San Pedro Task Joint Force	Identify watershed management planning options	City participated with Cochise County to identify management planning options Some of the recommendations under technical study in the USPP
Upper San Pedro Partnership	Identify, analyze, and prioritize policies and projects to manage water resources to sustain economic viability while protecting the environment.	Ongoing cooperation with stakeholders in upper San Pedro River basin
Cooperative Recharge Project	Investigate methods of stormwater recharge through monitoring to identify the best strategies to recharge stormwater	Ongoing monitoring and study through the USPP
DC, Art 151.16 Water Conservation	Identifies water-saving plumbing fixtures for buildings, irrigation, and commercial uses	Addressing new commercial, residential, and public development
City Ordinance, Title 9, Chptr 91, Sec 91.10	Defines willfully or negligently permitting escape of water which impedes a public right-of-way as a public nuisance	Adopted in 2000
Water Wise Program	Educate residents on benefits, needs, and methods of conserving water	According to the <i>Sierra Vista Environmental Services, Program Summary, Spring 2000</i> , 95% of homes/businesses receiving Water Wise audits changed habits to conserve water
Automatic Shut-off nozzles	Reduce water use during local car washes	Distributing automatic shut-off nozzles to local groups hosting car washes
Water demonstration projects	Identify and encourage water conservation and reuse methods	Hosting projects such as water harvesting, low water-use landscaping, and xeriscaping.
Slow-the-flow program	Reduce residential water consumption in 11,000 homes to save 280 ac. ft. annually	In planning to modifying or replacing high volume and leaky water fixtures via free service to City residents
Operation Low Flow	Reduce water use by toilets in City, to save 950 ac. ft. annually	Will replace high-flow toilets with low-flow toilets in homes via rebates and other incentives
Water Reclamation Facility/Effluent Recharge Project	Recharge 2,000 – 3,000 ac. ft. wastewater and stormwater effluent annually	Project is scheduled for completion in Spring 2002

Recognizing the importance of the Sierra Vista subwatershed, The Nature Conservancy began acquiring key parcels for protection as nature preserves more than 20 years ago. The Nature Conservancy now has preserves at Ramsey Canyon, Aravaipa Creek, Muleshoe Ranch, and Canelo Hills Cienega within the San Pedro watershed. The Conservancy also works with Mexican environmental groups and governmental agencies to try to protect the headwaters of the San Pedro River in Mexico. A few years after The Nature Conservancy became active in the region, the BLM began acquiring and/or designating already-owned lands for special protection, beginning with the Aravaipa Wilderness Area and later focusing on the perennial portions of the San Pedro River itself. The BLM and The Nature Conservancy have worked together over the last decade to acquire and retire half the farming acreage along the San Pedro near Sierra Vista, thereby reducing agricultural water use by thousands of acre-feet per year.

The BLM's San Pedro beaver reintroduction project began in FY97. Beaver-built structures are important to the storage of portions of stormwater in the fluvial aquifer. This literal and figurative 'savings bank' within the river stores water for vegetation use, and also provides flow to the river when the water levels are below the storage level of the banks. Additionally, beaver activities can help maintain optimum populations of riparian vegetation and prevent over-crowding of trees in the riparian area, thus blocking sunlight needed for supporting several layers of understory vegetation. Healthy beaver colonies can assist in maintaining perennial flows within the river, and are one of the strategies in restoring and maintaining the health of the riparian area.

To further curtail groundwater pumping in the region, the Army has entered into a cooperative agreement with The Nature Conservancy to acquire water conservation easements near the San Pedro River. Under this agreement, the Army has already received credit for conservation easement on a 960-acre parcel near the San Pedro River, which retired approximately 600 acre-feet annually. Under this agreement, The Nature Conservancy intends to continue to acquire additional conservation easements in the future.

5.5.1 Proposed Action: The proposed action would not significantly contribute to cumulative impacts on hydrology and water resources within the ROI. Fort Huachuca will implement conservation measures totaling 3,077 acre-feet by the year 2011. In addition, Fort Huachuca will partner with the City of Sierra Vista and other stakeholders in the region, to find methods to reduce water use and increase recharge within the basin. Under the proposed action, Fort Huachuca will receive \$125,000.00 to spend towards its efforts to manage water resources. This will ensure that the 34 net acre-feet associated with the direct, indirect, and cumulative impacts associated with the proposed action will not deter Fort Huachuca on its current progress towards reducing the region's annual water deficit.

5.5.2 Alternative 2: Eliminating 235 contract and civilian employee jobs would potentially have a beneficial impact to cumulative impacts in the Sierra Vista subwatershed by reducing annual water use in the region by up to 98 acre-feet per year. However, many contractors and employees would most likely remain in the region even if the jobs were moved elsewhere. For those employees who did leave the area, their recharge to the aquifer would be lost as well. Consequently, the reduction in water use within the region would most likely be well below 98 acre-feet annually.

5.5.3 No action Alternative: Maintaining the current workload and number of employees at ASC would not change the current cumulative impacts on the region's hydrology and water resources. However, should Fort Huachuca select the no action alternative, it will not receive an additional \$125,000 to spend towards water mitigation within the region.

5.6 ECOLOGICAL RESOURCES

As discussed in other sections of this EA, Biological resources of the Fort Huachuca region include aquatic habitats and biota and terrestrial vegetation and wildlife. The San Pedro River basin also exhibits high levels of biological diversity and is home to a number of sensitive or threatened and endangered species. Cumulative impacts to ecological resources at or near Fort Huachuca result from complex interactions of several different trends. The water resources trends discussed in Section 5.5 above are extremely important to the overall future of the region's ecological resources and sensitive species. Other impacts to ecological resources within the region that are discussed in section 5.4 above, include economic and recreational activities, and residential development

5.6.1 Proposed Action: The proposed action will not impact ecological resources on or around Fort Huachuca since operations will occur indoors in an existing building. Additional families to the region may contribute to further residential development, economic growth, and recreational activities that cumulatively impact ecological resources within the region. However, due to the mitigation measures discussed in section 5.5.1 above, the proposed action is not likely to significantly contribute to these cumulative impacts on ecological resources within the region. Additionally, the proposed action is not expected to significantly impact ecological resources through increases in recreational and economic activities from the new personnel and their family members.

5.6.2 Alternative 2: Eliminating 235 jobs would likely have a minimal benefit ecological resources in the region primarily through the projected reduction in water use discussed in section 5.5. Additionally, loss of 235 personnel and their family members would correspondingly affect residential and economic development in the region. However, the loss of 235 personnel and their family members would not noticeably reduce the cumulative impacts in the region to the region's ecological resources.

5.6.3 No Action Alternative: Maintaining the current workload and number of employees at ASC would not change the current cumulative impacts on the region's ecological resources. However, should Fort Huachuca select the no action alternative, it will not receive an additional \$125,000 to spend towards water mitigation within the region.

SECTION SIX: CONCLUSION AND FINDINGS

6.1 SUMMARY

6.1.1 Purpose and Need: In order for the Army Signal Command/NETCOM to support the increase in computer related missions, it must expand its personnel. It must also construct a new facility with sufficient power and telecommunications capacity to support the new equipment.

6.1.2 Description of the Proposed Action: ASC/NETCOM proposes to expand by 125 contract and civilian employees and construct a 100,000 square foot facility near Greely Hall. The estimated total cost for the construction is \$25 million. The net increased water usage associated with this action is estimated to be 34 acre feet for the 125 additional employees, and their family members. To mitigate their direct, indirect, interrelated, interdependent and cumulative water usage impacts, ASC/NETCOM will provide \$125,000 to Fort Huachuca to install conservation technology, work on various water mitigation projects on Fort Huachuca, and/or to purchase conservation easements off-post, near the San Pedro River.

6.1.3 Anticipated Environmental Effects: The EA addresses the possible direct, indirect, and cumulative impacts associated with the proposed action on land use; socioeconomic; archaeological, cultural, and historic resources; noise; climate and air quality; soils; hydrology and water resources; ecological resources, including threatened and endangered species; safety; waste management; transportation; and energy use. It concludes that the proposed action would not significantly impact archaeological, cultural and historic resources, noise, climate and air quality, soil, safety, waste management, transportation, or energy at Fort Huachuca or the region of interest. Even though 125 new civilian and contractor personnel positions at Fort Huachuca would be created, it would not significantly impact the socioeconomic resources of the region. Multiplied by 2.48 (average household size in Sierra Vista, according to the 2000 census), this would result in approximately 310 new residents, who would increase the population of Cochise County by less than 1%. Additionally, contractor and civilian salaries at Fort Huachuca would increase from \$151 to 158.5 million per year. The proposed action would not significantly affect the region's hydrology and water or ecological resources. Introducing 125 additional personnel with their family members would increase net water use in the Upper San Pedro River basin by 34 acre-feet annually. However, the proposed action includes a \$125,000 water mitigation fee that will be used to mitigate all the direct, indirect, and cumulative impacts to the region's hydrology, water, and ecological resources associated with the proposed action.

6.2 FINDINGS: Based on the analysis contained in the EA, implementation of the proposed action would not significantly impact the quality of the environment at Fort Huachuca or within the Upper San Pedro River basin. Consequently, the proposed action does not constitute a major federal action that would significantly affect the quality of the human environment; therefore, an environmental impact statement is not necessary.

SECTION SEVEN: LIST OF AGENCIES AND PERSONS CONSULTED

Thomas G. King, ASC/NETCOM Environmental Attorney, Fort Huachuca, AZ

Daniel D. Haws II, USAG Environmental Attorney, Fort Huachuca, AZ

LTC Kevin Luster, former Deputy Staff Judge Advocate, Fort Huachuca, AZ

Jim Hessil, Biologist, Fort Huachuca, AZ

Ernest Beil, Range Control Officer, Fort Huachuca, AZ.

Various ASC PERSONNEL

Bill Stein, Energy and Water Coordinator, Fort Huachuca, AZ.

Gretchen Kent, NEPA Coordinator, Fort Huachuca, AZ.

Charlie Slaymaker, Installation Archaeologist, Fort Huachuca, AZ

John Wickizer, Master Planner, Fort Huachuca, AZ.

U.S. Fish and Wildlife Service

Arizona Game and Fish Department

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SECTION NINE: ACRONYMS

ADNL	Average Daily Noise Level
ADWR	Arizona Department of Water Resources
AGFD	Arizona Game and Fish Department
AKM	Army Knowledge Management
AKO	Army Knowledge Online
AMA	Active Management Area
AR 200-2	Army Regulation 200-2, Environmental Effects of Army Actions
ASIP	Army Stationing and Installation Plan
BLM	Bureau of Land Management
COE	Army Corps of Engineers
CRMP	Cultural Resources Management Plan
DA	Department of the Army
dB	Decibel
DBA	A-Weighted Decibel
DIS	Directorate of Installation Support
DoD	Department of Defense
EA	Environmental Assessment
EPA	Environmental Protection Agency
FY	Fiscal Year
ICUZ	Installation Compatible Use Zone
mph	miles per hour
MSL	Mean Sea Level
NEPA	National Environmental Policy Act
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
PKI	Public Key Infrastructure
ROI	Region of Interest
SPRNCA	San Pedro Riparian National Conservation Area
TM	Technical Manual
TNC	The Nature Conservancy
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USPB	Upper San Pedro Basin
WSCA	Wildlife of Special Concern in Arizona